From "Slide Show" to "Serious games" approach
Quick development for complex learning objects

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Abstract

This seminar will present an overview on the evolution of the concept of Learning object, while illustrating the passage from the "slide show" to the "serious games" approach capable of transforming students from passive receivers of content to active and conscious learners thanks to the various potentialities present in the new developing softwares.

Moreover results, possible traps and weaknesses on the training efficiency and the real cost savings after the introduction of the Learning objects in the professional training environment will be examined.

From a long time learning is been considered a key strategy to develop the potential of individuals and to manage the organizational evolution. But learning can also be seen as a **leadership process** in which different leadership styles support the followers' maturity levels and influence the personal and professional growth, transferring knowledge an motivation. As Ken Blanchard sustains, good leaders adapt their style according to the development level of the people they are managing. Our thesis is that also the learning tools should be adapted to them. The challenge we propose is to re-read the evolution of e-learning, from the first html learning objects up to the serious games according to the Blanchard's matrix.
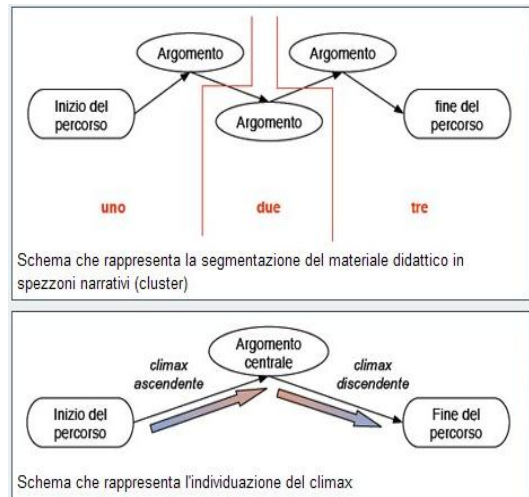
We can imagine four leadership styles representing different combinations of directive and supportive leader behaviors from which to choose for any given situation. These styles are related to four stages of followers readiness.

A first style, "Telling", is characterized by a high focus on task and a moderate focus on relationship. The leader defines roles and **tells** people what, how, when, and where to do various tasks. The follower is unable and insecure and lacks confidence or yet, the follower lacks commitment and motivation to complete tasks. What he needs is accurate and structured information and instructions which do not require personal research, discussions or interaction with other followers. Instructions must be clear and agreed by the leader in a very directive way.

The concept of e-learning came in conjunction with the release of the first Internet browsers in 1994/1995. It seems to suite perfectly the telling style. The first learning objects are the contents, information and knowledge objects. These could be a simple text document, a photograph, a video clip, a 3dimensional image, a slideshow or any other object that might be used for online linear learning. The student can visualize and share the document, but can't interact or add contents.

The natural evolution is represented by the second generation of learning objects which have been enabled to realize standalone reusable chunks of instructional media. Based on specific authoring softwares, they allow to record tutorials on software applications, Web pages or slide-based presentations. The knowledge nature is mainly technical and doesn't allow any personal initiative. The student navigates the course modules containing texts, audio and images, but devoid of interaction and didactic design. The methodology is push-based and the direction is totally managed by trainer/system. The output is still far away from a multimedia integrated project capable of harmonizing the cognitive dimension with the graphic elements and contents. The motivation is not adequately supported by a solid methodological project and the dropout rate is generally high.

Schema che rappresenta la segmentazione del materiale didattico in spezzoni narrativi (cluster)

Schema che rappresenta l'individuazione del climax

On the other side, the **share** style is made of a low focus on task and a high focus on relationship. The leader and the follower share in decision-making; the main role of the leader is coaching, facilitating processes and communicating. The follower has the ability to complete tasks but is apprehensive about doing it alone or the follower has little motivation and lacks willingness. He usually has high job maturity level and low psychological maturity. The keyword is **negotiate meaning** more than a mere contents delivery.

Each time we browse a newsgroup, a blog, a forum, we're supposed to know the general framework of the topic already. We're looking for information more than training, we're looking for authority of the source.

That's the typical methodological way to approach managerial training needs, based on learning communities which share material, opinions and best practices under a tutorship supervision.

But when it comes to cover "intermediate" training needs, in which both efforts on task and support are needed, the leader is a team builder who provides guidance and direction while being encouraging and social. The follower is unable to complete tasks but has the confidence as long as the leader provides guidance, or otherwise the follower lacks the ability but is motivated and making an effort. He has low job maturity but high psychological maturity (for example a new employee that is excited and willing to complete their task, but lacks the skills). The keywords are interaction, motivation, "selling" ideas.

That's a complex immersive interactive system (person-to-person and person-to-system) made of simulations, decision tree analysis, sharing experience and ideas.

In the last two decades we assisted to a passage from an initial stage in which learning was reduced to a mere digital transposition of the paper didactic materials, to a conception of "virtual experience centre". The new, third generation of learning objects, allows linking a theoretical concept to experience and enables the user to transpose what he memorized and experienced into his own professional reality in a very natural and easy way.

The simplest interactive online courses can be created by a new generation softwares for rapid learning which allow the delivery of more and more complex learning objects, mixing different formats such as audio, video or 3D movies. The new tool sets are user friendly, do not require any particular IT competences, and are able to arouse a greater interest and involvement towards the public they are addressed to.
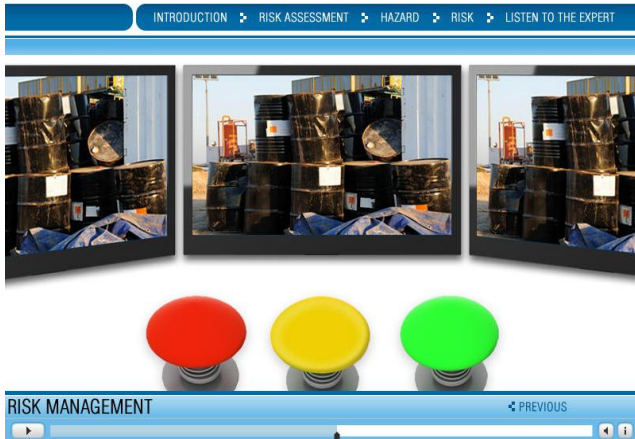
Serious Interactive Games and simulations represent the last and the most interesting frontier of interactive e-learning. Based on real-life situations, allow the players to assume roles and explore problems related to their professional environment. Many simulations allow interaction with other students in real time extending their engagement. The easiest way to plan serious games and business games is the tree approach. A tree is composed of branches and levels; even though the available branching is limited, the student can choose among many paths some of which lead to the same final results. The advantage for the multimedia development consist of reusing some scenes without sacrificing the educational value and the fun.

Interactive learning object, simulations and business games can be very engaging and didactically efficient, but they are not a panacea. for example most of the knowledge/skills may remain tacit. Their **effectiveness** is proportional to the ability to integrate them with other educational methodologies which combines theoretical contents, interaction with other students, sharing and discussing issues, whose mix depends on the knowledge needs' analysis (Information? Training? Performance support?) and the maturity level of the relationship between the trainee and the knowledge source itself. Some kinds of e-learning tools are non adequate for special purposes, for example serious games are advised against for software and procedure training. Besides, high management does not appreciate directive e-learning tools, what they need are not pre-packed informations, but collaborative methods allowing sharing experiences and informations. Yet the ROI of using these tools must be considered. Variables involved are different: design time, development time, the student time and travelling. Designing a learning object takes longer than preparing a classroom lesson based on Power Point supports. Developing a serious game requires 1-2 years of work, high cost and involves a team of professionals: artists, methodology experts and multimedia developers. The secret may be industrialization of some processes. On the other hand an e-learning course is easily replicable without any additional costs, may be revised by students increasing the contents retention and saves organizations time and money. Instead of one day time off for a classroom training, employees use 2-3 hours of their time to take an online course. The cost of travelling, classrooms, lunch and teacher's compensation are saved too. Significant savings are possible on large users.

A sample of Business Game published by Docebo Srl. The student is donning the role of manager engaged in a business meeting. He must face with a series of situations and make choices according to which the feedback is provided. To make the game closer to reality many factors era taken into account.

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